METHOD AND APPARATUS FOR ELECTRONICALLY ACCESSING AND DISTRIBUTING PERSONAL HEALTH CARE INFORMATION AND SERVICES IN HOSPITALS AND HOMES

This is a continuation-in-part application of U.S. patent application Ser. No. 08/241,405 filed May 11, 1994 now abandoned.

BACKGROUND OF THE INVENTION

The present invention relates to a method and apparatus for distribution and administration of medical services, entertainment services, electronic health records, and educational information useful in hospitals, other types of health care facilities, and patients' homes. Presently, some hospitals are automated only to the extent of storing basic patient information, such as patient's name and address, admitting doctor, type of ailment, etc., electronically in computer memory, to be accessed by administrative staff or, at nursing stations, by nurses or other medical personnel. Otherwise, much patient information is collected manually and stored on pages in the patient's file. Of interest to the present invention is our U.S. Pat. No. 5,133,079 entitled an apparatus for the distribution of movies, in which entertainment services, in the form of movies or the like, are delivered electronically in digitally compressed form from a master library to the home or other location of a customer.

Of general background interest to the present invention are the following references, namely Brimm, et al U.S. Pat. No. 5,077,666 (December, 1991) which describes and illustrates the data entry system intended for intensive care, with two display units at each bedside, connected to patient monitoring equipment, which system provides a file server with limited computer functions and some associated disk storage; Cummings, Jr. U.S. Pat. No. 5,301,105 (April, 1994) which teaches a system for health care for patients including a method of payment for billing and a card, personal to a patient, for simple personal identification using magnetic stripe technology; Garcia U.S. Pat. No. 5,065,315 which describes and illustrates a system and method for re-scheduling and reporting patient related services in a hospital, centered on editing procedures and information for a patient and entering information pertinent to a patient's stay in a hospital, including scheduling for tests; Wilhelm U.S. Pat. No. 5,319,543 (June, 1994) directed to a system for central processing of medical records and management of work flow associated with the storing and tracking of electronic medical records based on PC workstations located at nursing stations or physician's offices and Chaco U.S. Pat. No. 5,291,399 (March, 1994) which teaches a system which distributes and processes medical information, optionally by keyboard data entry at a patient's bedside.

OBJECTS OF THE INVENTION

An object of the present invention is to provide a more automated system for distribution and administration of medical services, entertainment services, electronic health records and the like for hospitals, other health care facilities, including the patient's bedside in a hospital or at the patient's domestic premises.

SUMMARY OF THE INVENTION

In accordance with the present invention there is provided an electronic information system for distribution of medical information and patient services which comprises:

(a) a data source in the form of a master library storing data in digital compressed format;

(b) a communications interconnection system electronically associated with the master library;

(c) an automated nursing station electronically associated with the master library through the communications interconnection system for temporary storage of a patient's health records, comprising computer means incorporating a client/server configuration and sufficient memory to temporarily store health records for patients monitored by this station;

(d) an electronic patient care station comprising:

(i) a monitor screen for display of normal NTSC video, RGB video and other interfaced/non-interlaced digital video formats;

(ii) interface means to electronically communicate through the communications interconnection system with the master library and with the nursing station;

(iii) a wireless/IR transmitter/receiver to communicate with a pen based computer device;

(iv) an input entry device to facilitate the patient/medical staff communication within the system; and

(v) compression and decompression means for data passed to and from the patient care station.

In a preferred embodiment of the present invention, the system comprises a plurality of nursing stations and one or more patient care stations which are electronically associated with each of the nursing stations. It is preferred that the master library be adapted to store data preferably in digital compressed form selected from one or more of the following:

(a) patient/medical staff health record information,

(b) clinical data including X-Ray, MRI and video images,

(c) patient laboratory data to support medical diagnoses and investigations,

(d) educational/training information in video or textual format for the training of medical personnel and patient requirements,

(e) pharmaceutical databases,

(f) entertainment audio/video data,

(g) monitored video of critical areas including operating rooms and psychiatric wards,

(h) general security video monitoring data, and

(i) management information data including accounting, billing and inventory control/ordering services.

As well, the master library is preferably provided with means to receive and store, in digitally compressed form, data from one or more of the following:

(a) physicians' offices;

(b) clinics and laboratories;

(c) video entertainment libraries;

(d) electronic medical libraries;

(e) hospital security, patient and operating room monitoring information; and

(f) patients' residences.

Through the use of such an electronic information system, many record keeping operations of a typical hospital can be rendered paperless. As well, the collection and distribution of information in the hospital relating to patients, and the delivery of services to patients, as well as many other aspects of hospital administration are significantly facilitated through the use of the system according to the present invention, resulting in enhanced healthcare quality.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other objects and advantages of the invention will become apparent upon reading the following detailed description and upon referring to the drawings in which: